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(19) (CA) APPLICATION FOR CANADIAN PATENT (12)

(54) Combination Earmuff Radio Headset (Original Radio Earmuffs)

(72) Verbon, Joanne - U.S.A. ;

(71) Same as inventor

(30) (US) 08/498,679 1995/07/03

(57) 6 Claims

Notice: This application is as filed and may therefore contain an incomplete specification.



Industrie Canada Industry Canada

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Canada

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2180036**ABSTRACT**

A combination radio headset-earmuff having two earbud type speakers connected by an adjustable headband. Radio electronics are contained within the left earmuff and a power supply and on-off switch are contained within the right earmuff. The present invention allows the wearer to keep the ears warm while listening to the radio headphone. Large, flat, textured controls allow the user to adjust the radio even while wearing gloves. The areas where the control shafts protrude through the outer most layer of the earmuff are sealed in a water tight manner.

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COMBINATION EARMUFF-RADIO HEADSET

BACKGROUND OF THE INVENTION

This invention relates to earmuffs and is more particularly concerned with earmuffs which are especially adapted for use with a headset radio.

Radio headsets which are comprised of a small radio mounted to a light weight headset, are quite popular. The earphones for such headset radios are generally mounted in small size pads which fit snugly in or on the outer ear. This leaves the pinna and lobe of the outer ear exposed. In cold weather the external ear is therefore liable to frostbite. Ordinary earmuffs cannot be accommodated because of the headband and bulk of the radio portion. In addition, the controls of the radio can not be easily reached if an earmuff covered the radio portion especially if the user is wearing gloves. It is to the alleviation of this problem that the present invention is directed.

The problem of ear protection for the cold weather user of a headset has been recognized in the past. U.S. Pat. No. 4,546,215 issued Oct. 8, 1985 to Ferraro discloses a detachable earmuff for a headset in order to protect the user of a headset in cold weather. However, Ferraro's earmuff is detachable and would not be able to accommodate a radio type headset and would provide no way to operate the radios controls. Richard Chance's U.S. patent no. 4,669,129 issued Jun. 2, 1987 as an improved version of Ferraro's design and causes similar problems. Gerald K. Ishikawa's pat. No. 4,654,898 issued on Apr. 7, 1987 also discusses a removable earmuff for headphones which would not accommodate a radio. Richard Byrne's patent 5,257,420 issued Nov. 2, 1993 shows a headband having two speaker receiving pouches. Byrne's design is also intended to combine an existing headphone with a detachable cold weather enclosure. None of the above patents addresses the problem of incorporating a small radio and headphone as an integral part of an earmuff where the

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final design is not overly bulky and the radio controls are easily accessible even when the user is wearing gloves.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a novel and useful combination radio headset- earmuff that is not bulky and where the user can easily adjust the radio controls. An additional object of this invention is to provide a combination radio headset and earmuff where a weather proof grommet surrounds the radio control knob shafts which protrude through the outer earmuff material causing the radio to remain free from moisture. Another object of the present invention is to provide a low profile, textured surface on the radio control knobs so that the user can operate the radio control knobs even while wearing gloves.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a person wearing the present invention

Fig. 2 is a perspective view of a person adjusting the controls of the present invention.

Fig. 3 is a section view of the present invention

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 1 shows a person wearing the present invention 50.. On-off switch 6 is conveniently located externally The headband 8 is adjustable in the same way as a conventional earmuff headband. The radio headset-earmuff shown 50 looks substantially like a normal pair of earmuffs because the unique layout of the internal components as shown in Fig. 3

Figure 2 shows a person adjusting one of the radio controls 12 while wearing a winter glove 10. The control knobs 12,52 have a flat profile and blend in with the surrounding outer earmuff material 2. Small bumps on the surface of control knobs 12,54 allow the user to

press a gloved finger 10 on the control knobs 12,52 and easily rotate them thereby changing the station or adjusting the volume. Figure 3 shows the compact layout of the present design. Earbud type speakers 24,26 are employed to eliminate the added bulk of conventional out of the ear speakers and their accompanying foam ear pads. The electronic components are split so that the volume of the contents are evenly divided. The on-off switch 6 and a AA battery 28 are located in the left earmuff. The radio electronics 22 and control knobs 12,52 are located in the right earmuff. Battery contacts 62 are mounted on hard plastic plate 32. Radio electronics 22 are mounted on hard plastic plate 20. A wire 14 connects the radio electronics 20 with the power supply 28. The wire 14 is coiled at the top center 40 to allow for expansion and contraction of the headband 8. Wire set 14 also carries electronic sound pulses to the left ear bud 26. The earmuff portions can fold inward at hinges 34,36 in the same manner as a conventional head set thereby allowing the entire assembly to fold compactly for storage. Grommet 16 prevents water from entering the opening in outer cover 2 where the shafts from control knobs 12,52 protrude. Flexible switch cover 60 prevents water from entering the inner portion of the left earmuff. Inner fabric covered foam ear pads 30,32 provide cushioning and insulation for the users ear.

Accordingly , the present invention has been described with some degree of particularity directed to the preferred embodiment of the present invention. It should be appreciated, though, that the present invention is defined by the following claims construed in light of the prior art so that modifications or changes may be made to the preferred embodiment of the present invention without departing from the inventive concepts contained herein.

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I claim:

- 1. A combination radio headset-earmuff to be worn on a persons head wherein said headset has earbud type speakers and an adjustable headband operative to bias said earbud inside the ear, comprising:**

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an element inside the left said earmuff consisting of radio electronics mounted to a rigid plastic plate, said plate hingably connected at its top most surface to the left side of said headband member;
an element inside the right said earmuff consisting of a battery holder, battery and on-off switch all mounted to a rigid plastic plate, said plate hingably connected at its top most surface to the right side of said headband member
and a wire set which travels along and strapped to said headband from said radio electronics to said battery, said right earbud and on-off switch.

2. A combination radio headset-earmuff according to claim 1 wherein said radio electronics contain rotatably adjustable volume and tuning controls whose shafts protrude through the outer surface of said left earmuff and terminate in flat discs, said disks having a textured surface so that a person wearing gloves can easily adjust said controls.

3. A combination radio headset-earmuff according to claim 1 wherein said on-off switch protrudes through the outer surface of said right earmuff and terminates in a slidable textured surface so that a person wearing gloves can easily turn said radio on and off.

4. A combination radio headset-earmuff according to claim 1 wherein a water tight grommet is applied to each of the shafts of said radio controls, said grommet overlapping the inner and outer wall of said outer most layer of said left earmuff creating a water tight seal.

5. A combination radio headset-earmuff according to claim 1 wherein a flexible membrane covers the outer portion of said on-off switch, said membrane being secured to the outer most surface of said right earmuff creating a water tight seal.

6. A combination radio headset-earmuff according to claim 1 wherein said wire set is in a coiled configuration at its center most point to allow for expansion and contraction of said headband.

2 1 5 0 0 0 9 9 7 7 7 7 1



FIG 1

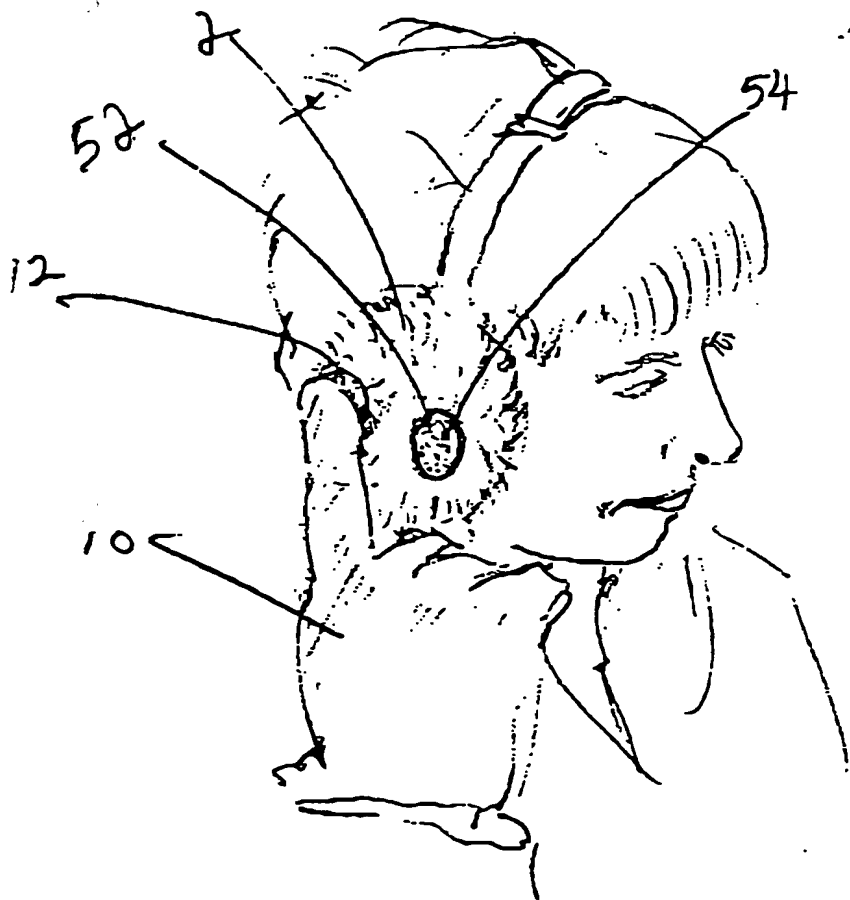


FIG 2

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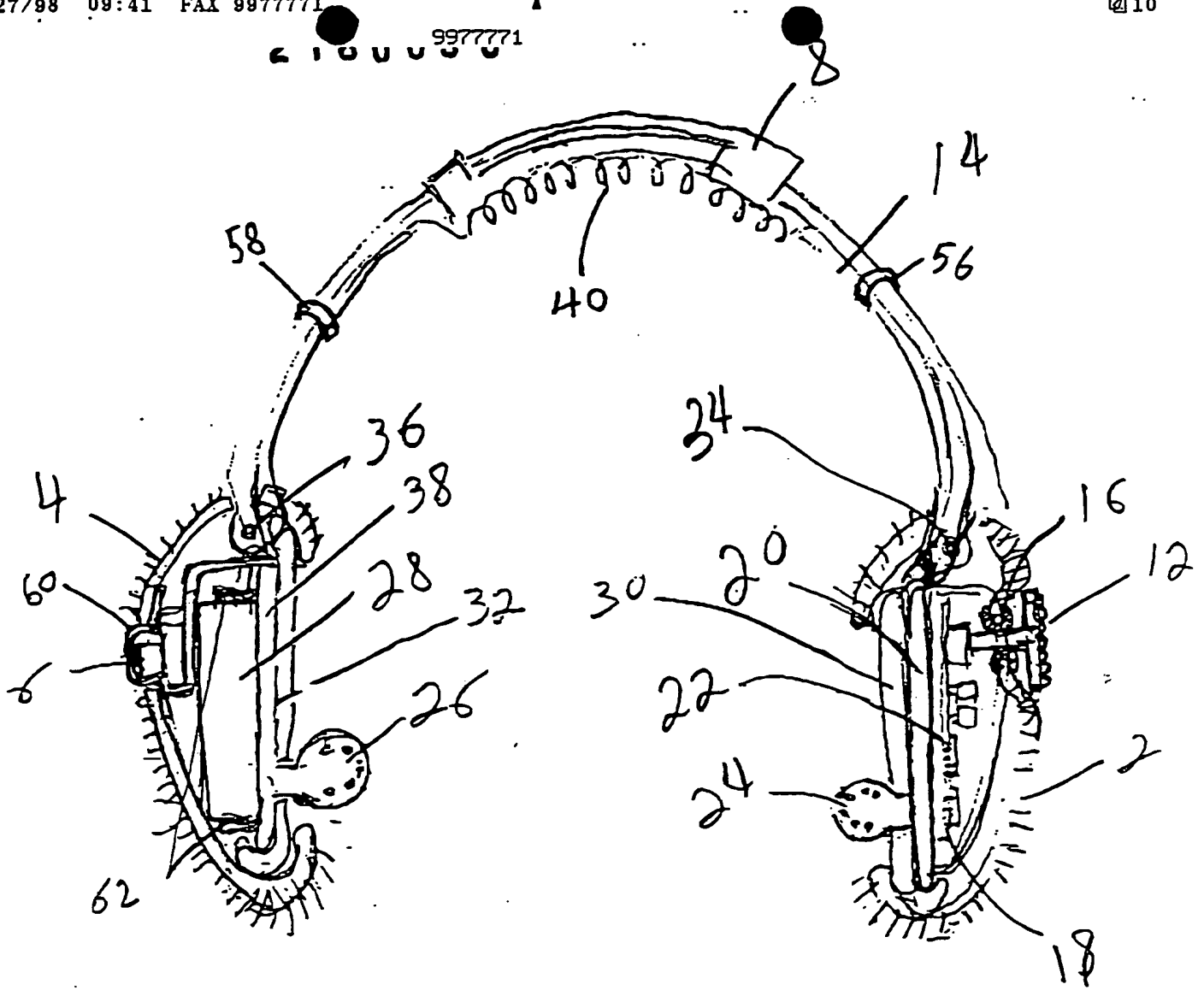
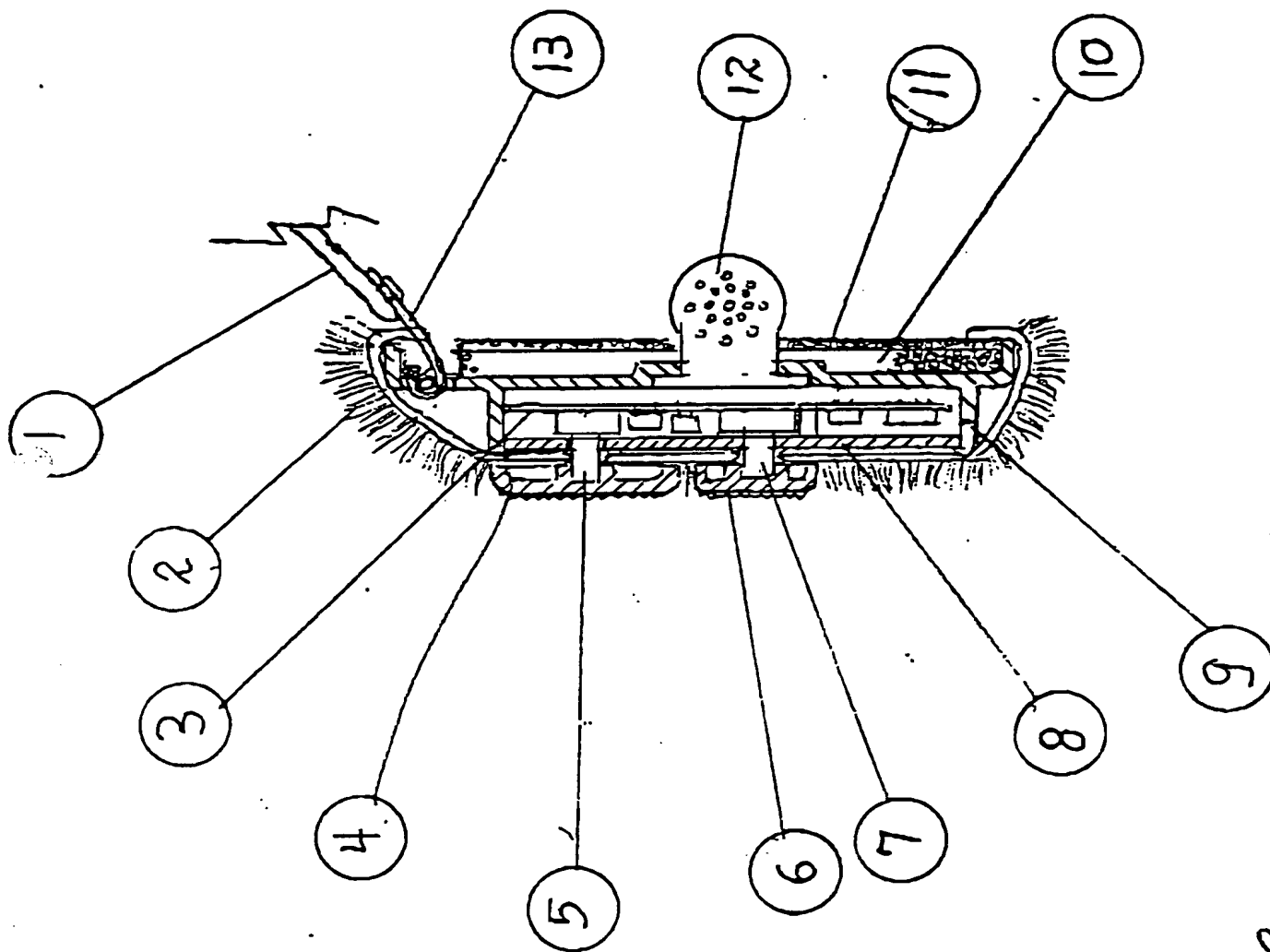


FIG 3

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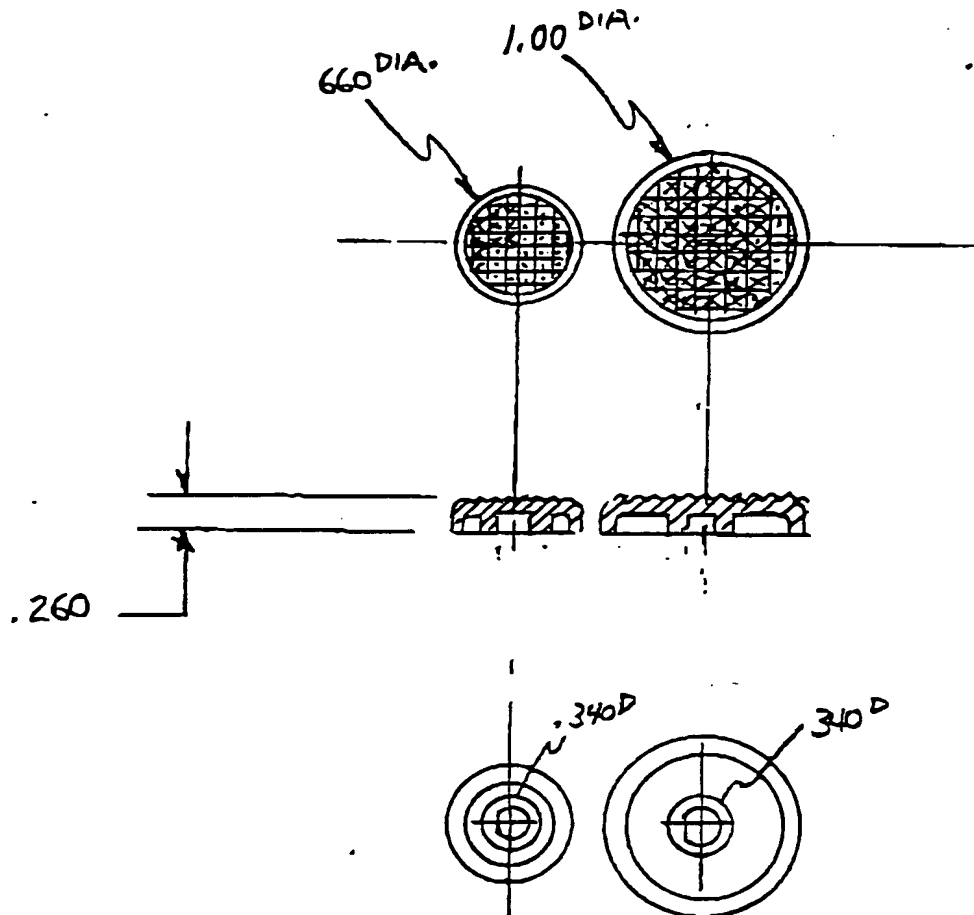


#	PART
1	HEAD BAND
2	OUTER "FUR" COVER
3	P.C. BOARD
4	TUNER KNOB
5	TUNER
6	VOLUME/ON/OFF KNOB
7	VOLUME/ON/OFF SWITCH
8	LID
9	MAIN BODY-P.C.B. SIDE
10	FOAM
11	FELT
12	EAR BUD TYPE EAR PHONE
13	METAL HINGE
14	OPPOSITE EAR-MAIN BODY
15	AAA BATTERIES
16	BATTERY CONNECTORS

EAR MUFF RADIOASSEMBLY VIEW

TARLOW DESIGN 3-12-98

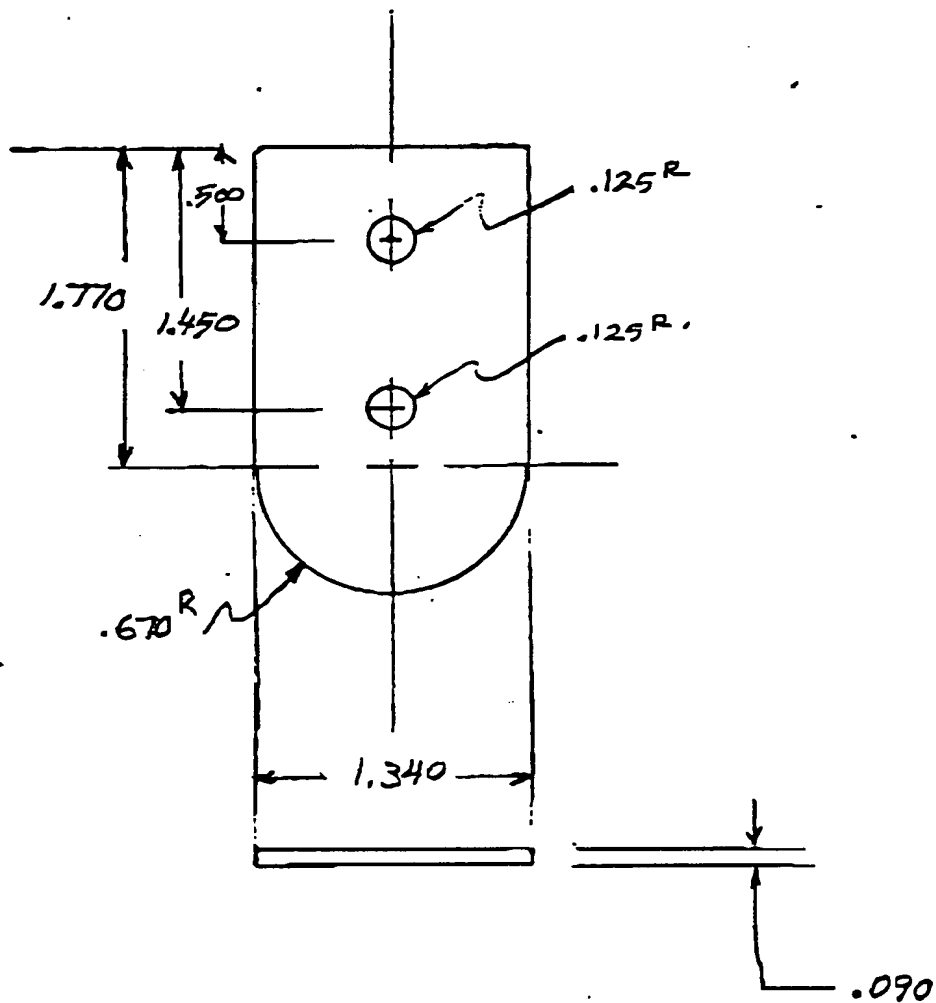
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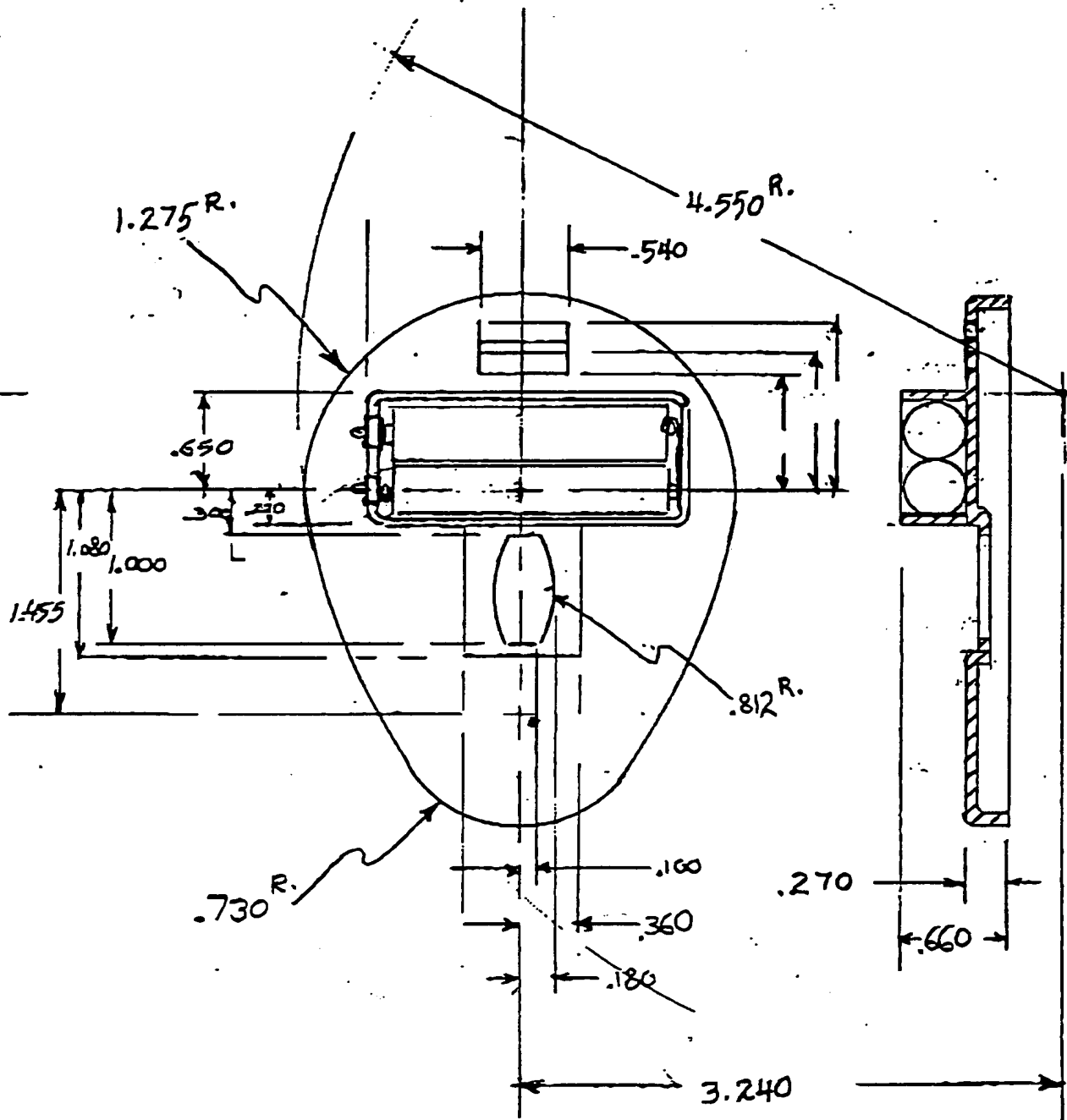
PART # 4 + 6 VOLUME & TUNER KNOBS

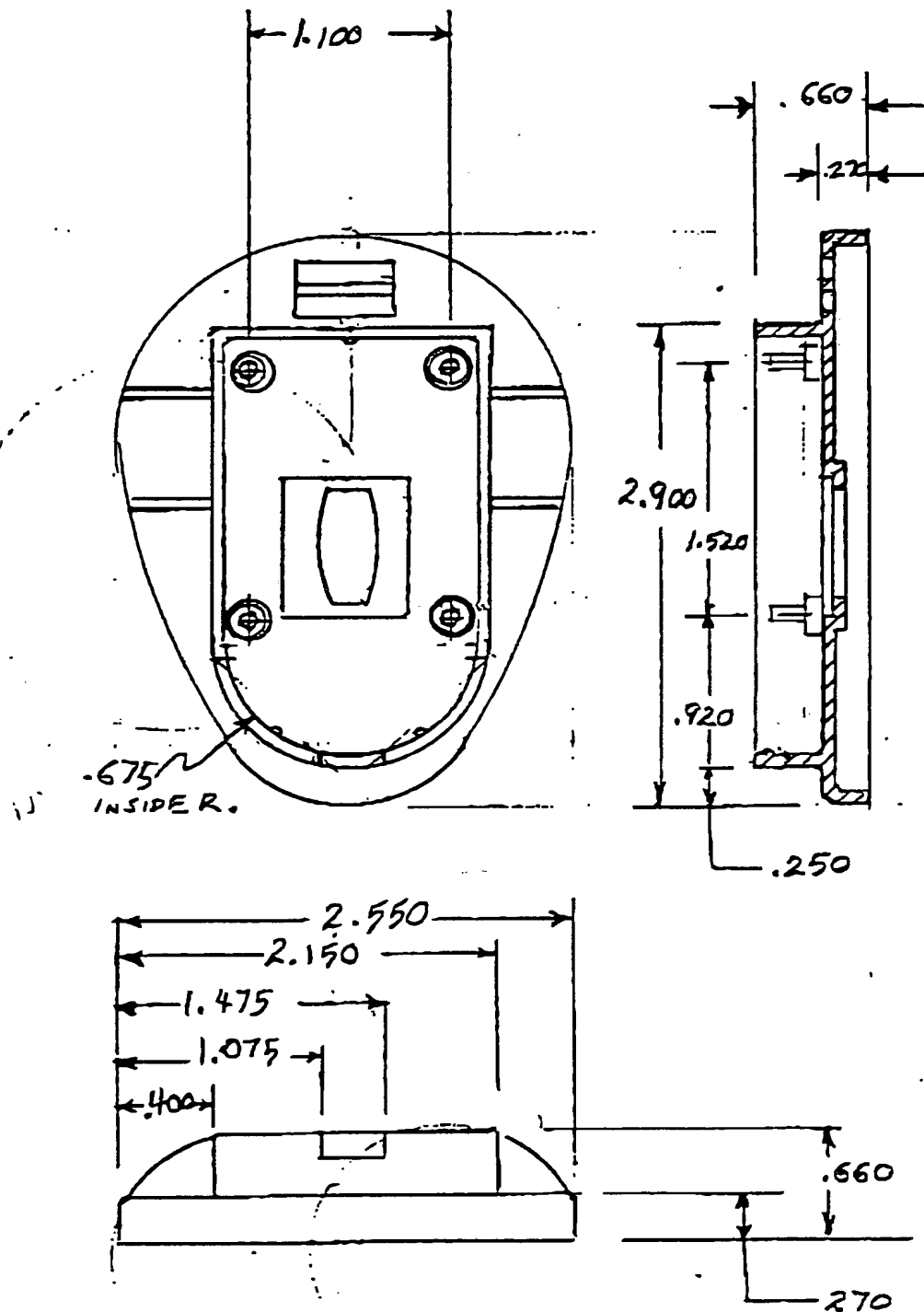
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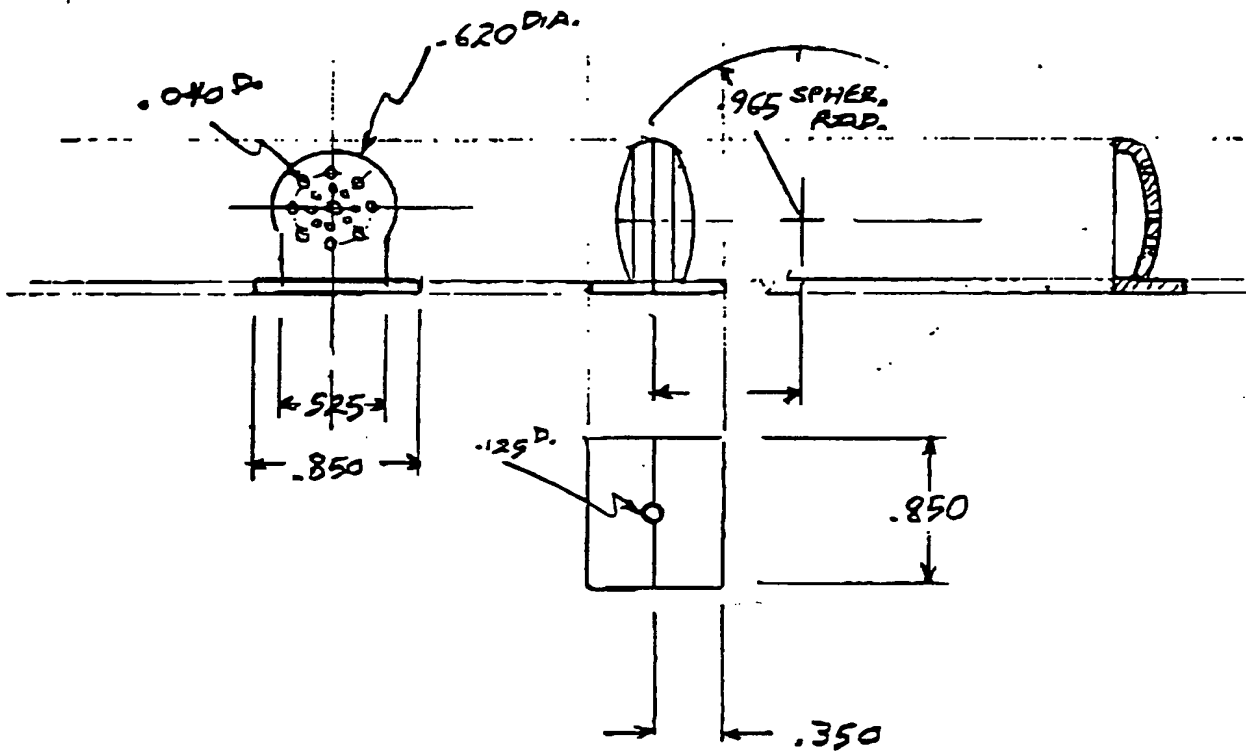
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PART # 8 LID

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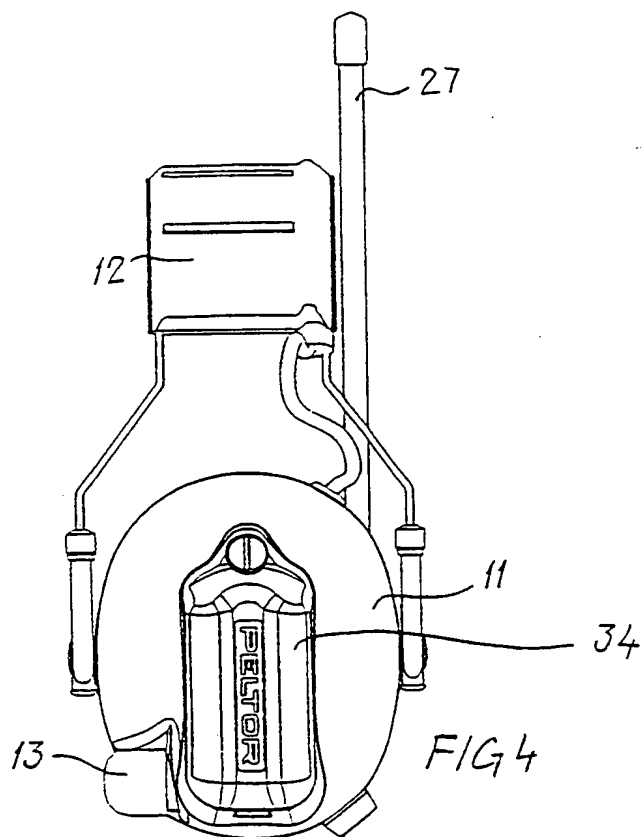
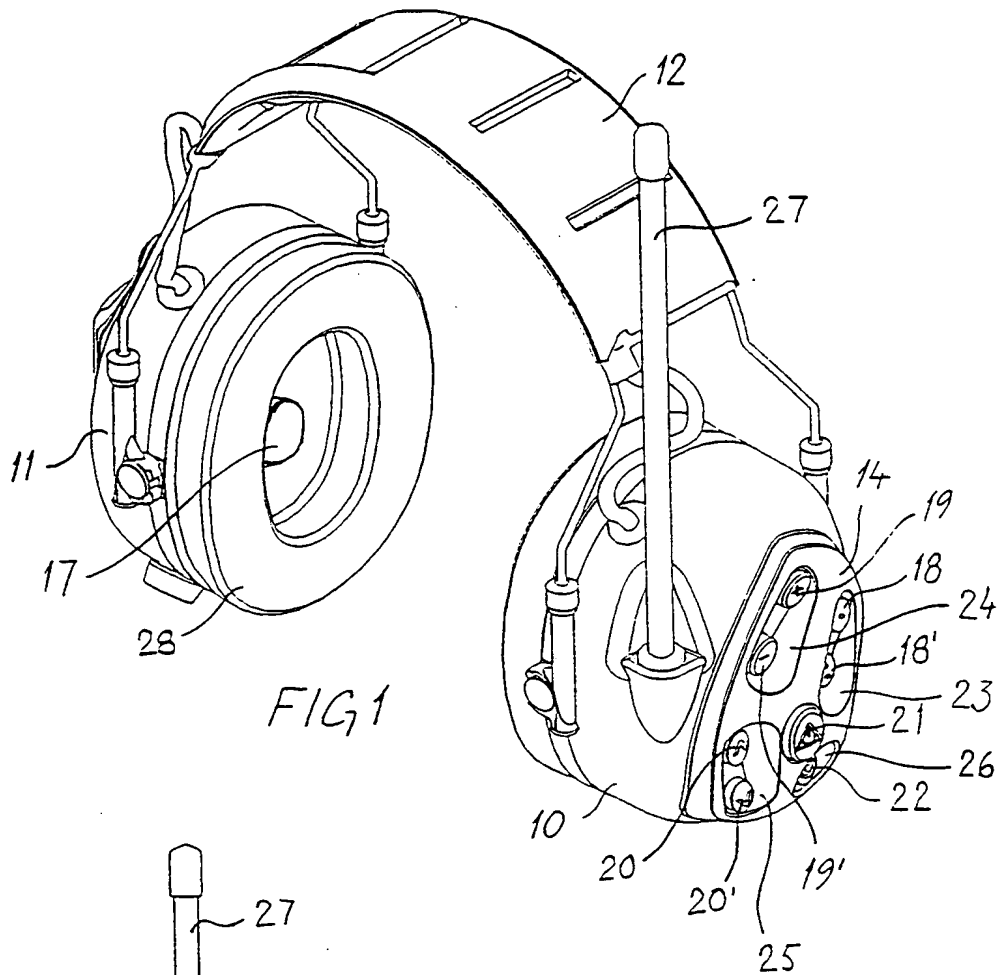
PART # 14 OPPOSITE EAR MAIN BODY

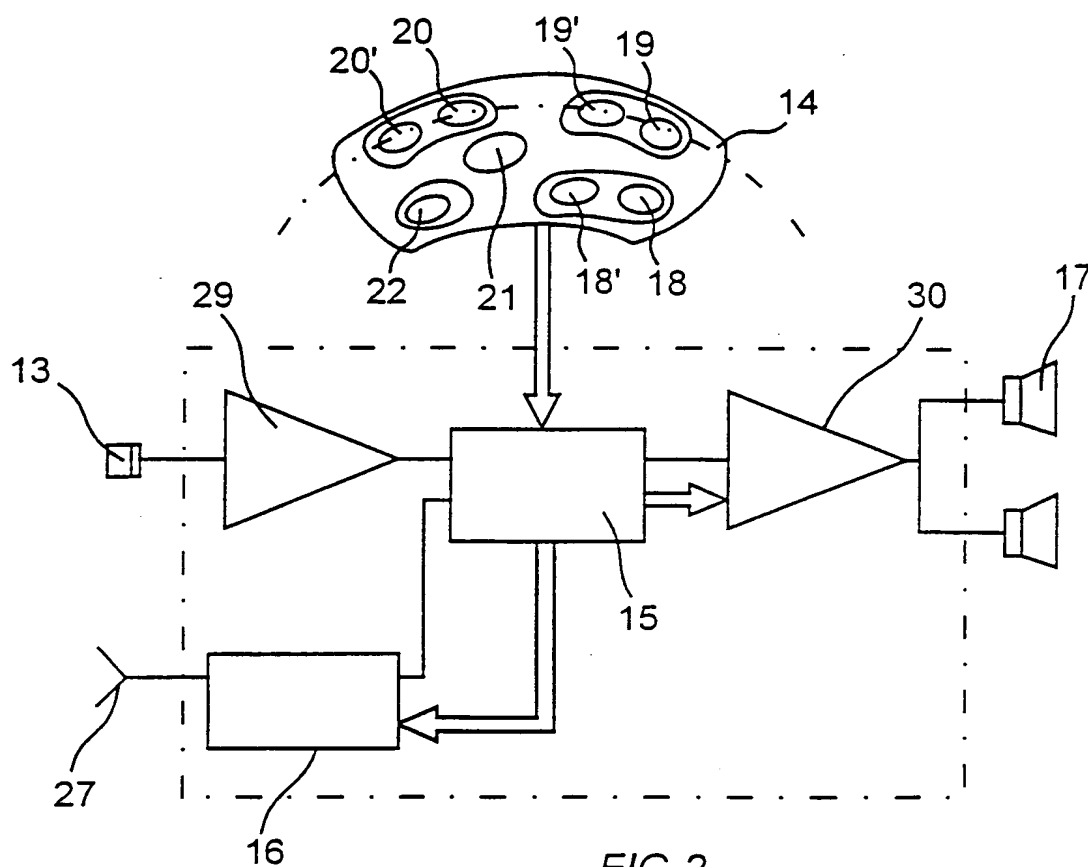
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2180036PART # 9 MAIN BODY - P.C.B. SIDESAME OUTSIDE DIMENSIONS AS PART 14

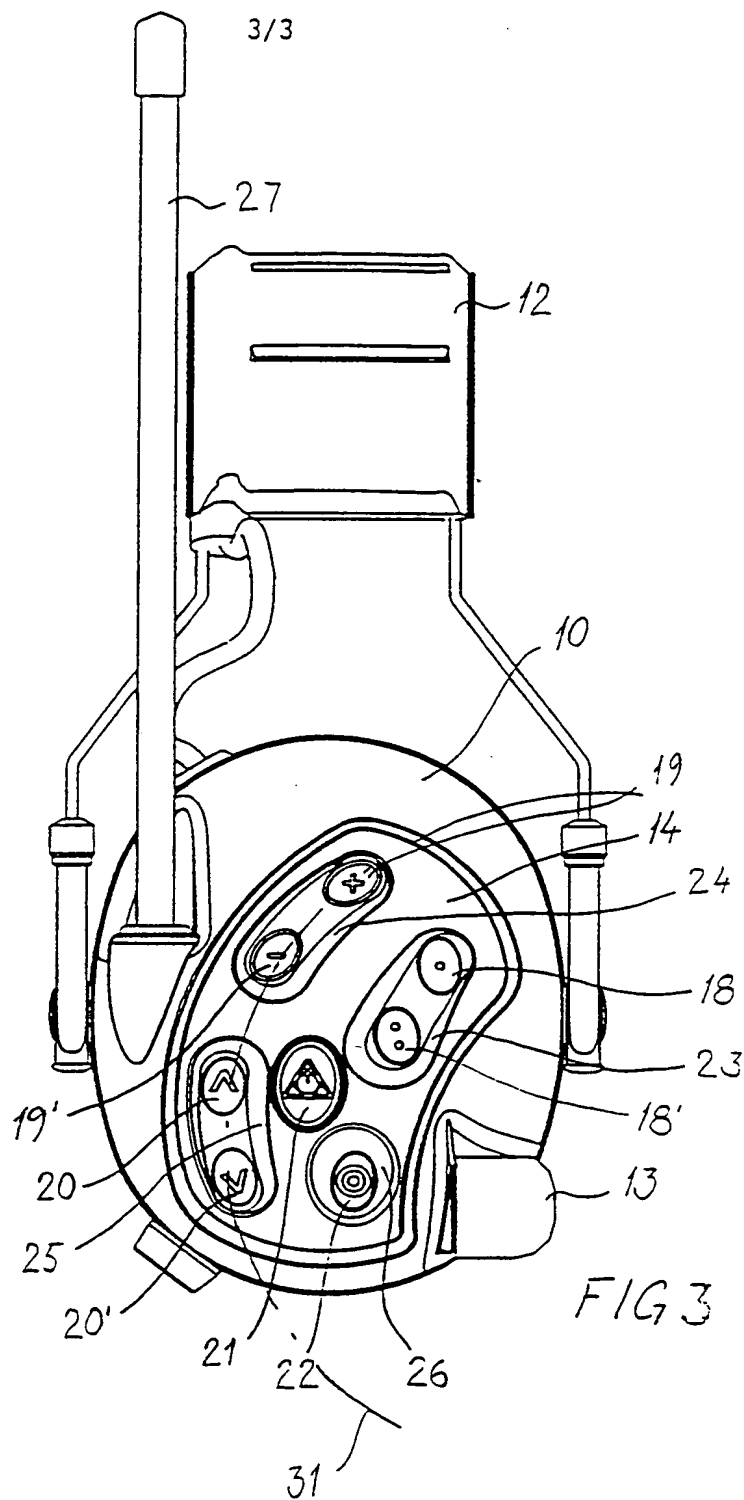
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PART #12 ONE ASSEMBLY = 2 MIRROR IMAGE FILES

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